UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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Seattle, Washington 98101-3140

AUG 1 1 2011

OFFICE OF
COMPLIANCE AND ENFORCEMENT

Reply To: OCE-084

David L. Wessman
TSCA Compliance Manager
U.S. Department of Energy
1955 Freemont Avenue, MS 1216
Idaho Falls, Idaho 83415

Re: First Modification - Approval of the Toxic Substance Control Act (TSCA) Risk-Based Disposal Approval (RBDA) Application for Management of Transuranic Polychlorinated Biphenyl (PCB) Remediation Waste at the Advanced Mixed Waste Treatment Project (AMWTP) Facility

Dear Mr. Wessman:

This letter constitutes approval of modifications, under the authority of 40 Code of Federal Regulations (C.F.R.) § 761.61(c), to the Risk-Based Disposal Approval (RBDA) for Management of Transuranic Polychlorinated Biphenyl (PCB) Remediation Waste, at the Advanced Mixed Waste Treatment Project (AMWTP) Facility, dated June 12, 2007 (Reference 19 in Enclosure 1). The original RBDA authorized the United States Department of Energy, Idaho Operations Office (DOE-ID), to process for disposal via absorption of PCB liquids certain transuranic (TRU) PCB remediation waste in storage at the Advanced Mixed Waste Treatment Project (AWMTP) facility, and destined for disposal at the Waste Isolation Pilot Plant (WIPP), the designated disposal site for TRU wastes. The DOE-ID provided the U.S. Environmental Protection Agency, Region 10 (EPA), a request to modify the original RBDA, via the document "Request for Modification of the Toxic Substance Control Act (TSCA) Risk-Based Disposal Approval (RBDA) Application for Management of Transuranic Polychlorinated Biphenyl (PCB) Remediation Waste at the Advanced Mixed Waste Treatment Project (AMWTP) Facility (OS-ETSD-11-098)," dated August 3, 2011 (Reference 20). The purpose of the requested modification is to extend the original RBDA to include treatment via absorption within WMF-676 Box Lines of free liquids containing PCBs. These wastes are currently in storage at the AMWTP facility, and are destined for disposal at the Waste Isolation Pilot Plant (WIPP), but still require treatment prior to shipment to the WIPP, the designated disposal site for TRU waste.

This letter supersedes the original risk-based disposal approval dated June 12, 2007. For convenience, the original RBDA with the modifications approved by this letter is provided in its entirety. The terms "approval" and "RBDA" are synonymous, and unless otherwise qualified, refer to the original RBDA with modifications approved by this letter.

This approval is subject to conditions established below. The management activities which may be conducted pursuant to this approval are within the definition of "disposal" at 40 C.F.R. §761.3. The scope of this approval, however, is limited by conditions of the approval to certain work that will be conducted at the AMWTP facility necessary for the wastes to qualify for disposal at the WIPP. The rationale of the EPA for establishing each of these conditions is contained in the Statement of Basis

appearing as Enclosure 2 of this letter. The written decision for a risk-based method for disposal of TRU PCB remediation waste is based on the DOE-ID application for a RBDA request dated March 1, 2007, the cited modification request dated June 2, 2011, as well as additional information provided to the EPA in support of this application, identified in Enclosure 1. In granting this approval, the EPA finds that the proposed management of transuranic PCB remediation waste destined for disposal at the WIPP, subject to the conditions below, will not pose an unreasonable risk of injury to human health or to the environment. The conditions of this approval are enforceable under TSCA and implementing regulations 40 C.F.R. § 761.61(c). Any actions by the DOE-ID which violate the terms and conditions of this letter may result in administrative, civil, or criminal enforcement by the EPA in accordance with Section 16 TSCA, 15 U.S.C. § 2615.

Conditions

1) This approval applies to TRU PCB remediation waste currently stored at the AWMTP facility identified as IDC RF003, IDC BC203, and IDC RF480 that has been designated by the Secretary of Energy to be disposed of at the WIPP located in Carlsbad, New Mexico, and which are potentially multi-phasic, with an upper bound of ten (10) percent by volume liquids (based on the primary container volume). Wastes that are not eligible for or have not been designated by the Secretary for disposal at the WIPP are not covered under this approval. This approval shall remain in effect as necessary to complete processing of wastes identified in this condition[1], any additional wastes approved pursuant to Condition 2, and up to two additional years as necessary to satisfy the requirements of Condition 8. The EPA may extend the duration of this approval based on a written request from the DOE-ID.

2) PCB remediation wastes other than those currently in storage at the AWMTP facility that otherwise meet the requirements in Condition 1, may be managed under this approval if the DOE-ID provides a written request to the EPA to manage these wastes and the EPA provides written approval of the request. Any written request submitted by the DOE-ID will document that the proposed additional wastes otherwise meet the requirements in Condition 1.

3) The DOE-ID is authorized to absorb incidental liquids in wastes identified in Condition 1 for purposes of meeting waste acceptance requirements of WIPP. The DOE-ID may use absorbents, according to manufacturer's directions, identified in the RBDA Application, Section 4. Management of PCB remediation waste for this purpose may occur in soft-sided containment tents within WMF-628 and/or WMF-635 in accordance with the requirements of Condition 5, the bulleted items in Section 4 of the RBDA application (Reference 1, incorporated by reference into this condition), and according to the requirements of Attachments 1.C and 1.E of the RCRA permit. Management of PCB remediation waste for this purpose may also occur in the WMF-676 North and South Box Lines, in accordance with the requirements of Condition 5, Sections 5.2, 6.1, and 7 of Reference 20, incorporated by reference into this condition, and according to the requirements of Attachments 1.C and 1.E of the RCRA permit. Equipment and types of manual/mechanical means used to separate the liquid or mix liquids with absorbent for purposes of absorption of liquid shall not result in uncontrolled or un-permitted bulk or aerosol emissions.

[1] Based on the requirements of an Idaho Settlement Agreement between DOE, the State of Idaho and the Department of the Navy, the estimated 65,000 m^3 of legacy TRU must be removed out of Idaho by the end of 2018.

4) Management of PCB remediation waste under this approval shall follow requirements of real-time radiography/visual examination to meet WIPP certification requirements according to the EPA-approved waste characterization program for WIPP shipment and disposal of waste streams managed under this approval for purposes of ensuring that liquids (including but not limited to liquids in oil-filled equipment) other than incidental liquids are not managed under this approval.

5) Management of PCB remediation wastes under this approval shall be in compliance with and conducted only in units subject to permits issued by the State of Idaho pursuant to IDAPA 58.01.05.008 (the RCRA permit) and IDAPA 58.01.01.200 – 223 (the Air Permit), 10 C.F.R. Part 835 and DOE Order 5400.5.

6) The DOE-ID shall ensure that personnel involved in work subject to this approval are adequately trained and provided appropriate personnel protection equipment (PPE) according to requirements of DOE Order 5400.5 and 10 C.F.R. Part 835 applicable to such work.

7) Secondary waste generated as a result of activities subject to this approval shall be managed according to the applicable requirements of 40 C.F.R. Part 761.

8) All equipment and structures which are or may be contaminated by PCB remediation waste as a result of work subject to this approval shall be decontaminated according to the requirements of 40 C.F.R. § 761.79, a clean debris surface according to the alternate treatment standards for hazardous debris in 40 C.F.R. § 268.45, or disposed of according to applicable requirements of 40 C.F.R. Part 761. Work may also be accomplished according to the requirements of Attachment 8 of the RCRA permit provided that PCBs, as measured by Aroclor mixtures, are included as a contaminant of concern. This work shall be conducted on a schedule consistent with closure requirements of the RCRA permit. The DOE-ID shall provide written notice to the EPA at least 30 days prior to the start of this work.

9) Any spills or releases of PCB remediation waste associated with work subject to this approval shall be addressed according to the requirements of the RCRA permit, 10 C.F.R. Part 835 and DOE Order 5400.5.

10) Nothing in this approval relieves the DOE-ID of any obligations to comply with all other rules and regulations applicable to the activities subject to this approval.

11) If any time before during or after management of PCB remediation waste under this approval, DOE-ID possesses or is otherwise made aware of any data or information (including but not limited to site conditions that differ from those presented in this RBDA application) indicating that activities approved herein may pose an unreasonable risk of injury to health or the environment, the DOE-ID must report such data, via facsimile or e-mail to the EPA within five working days, and in writing to the Regional Administrator within 30 calendar days, of first being made aware of that data. The DOE-ID shall also report new or different information related to a condition at any element of the AMWTP treatment activities if the information is relevant to this approval. The DOE-ID shall immediately cease all activities approved herein that may pose an unreasonable risk of injury to health or the environment. Such activities shall not resume until the EPA provides written notification that the activities in question no longer pose an unreasonable risk of injury to health or the environment.

12) The EPA reserves the right to modify or revoke this approval based on information provided pursuant to Condition 11, or any other information available to the EPA that provides a basis to conclude that activities covered by this approval pose an unreasonable risk of injury to health or the environment. The DOE-ID may request modification of this approval by providing written notice according to Condition 13. If the EPA accepts a request for modification, the EPA will provide written notice to the DOE-ID. Prior to obtaining written approval of a modification request, the DOE-ID shall comply with the existing approval conditions.

13) Submissions required by this approval shall be provided to the EPA as follows:

EPA: Edward J. Kowalski, Director
Office of Compliance and Enforcement
EPA Region 10
1200 6th Ave., MS OCE-164
Seattle, WA 98101
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W/copies to Dave Bartus
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Should you have any questions or comments, please contact Dave Bartus at (206) 553-2804, or Bartus.dave@epa.gov.

Sincerely,

Edward J. Kowalski
Director

Enclosures
1. Supporting Documentation
2. Statement of Basis

cc: Robert Bullock
Idaho Department of Environmental Quality

Enclosure 1

Supporting Documentation

Approval of the Toxic Substance Control Act (TSCA) Risk-Based Disposal Approval (RBDA) Application for AMWTP TRU-contaminated Liquid PCB Remediation Wastes

1) DOE-ID letter, David L.Wessman, United States Department of Energy, Idaho Operations Office, "Toxic Substances Control Act Application for a Risk-Based Disposal Approval to Process Radiologically Contaminated Liquids Containing Polychlorinated Biphenyls – SCR-003-07," March 1, 2007.

2) EPA letter dated February 28, 2002. From: John H. Smith, Ph.D., EPA; To: Ms. Lynne Smith, WIPP Office Director. "Legacy/Solidified TRU Waste."

3) EPA letter dated May 15, 2003. From: Carl E. Edlund, P.E., Director Multimedia Planning and Permitting Division, EPA Region VI, "Disposal of PCB/TRU Mixed waste at the Department of Energy (DOE) Waste Isolation Pilot Plant (WIPP) Carlsbad, New Mexico" (Issued May 15, 2003; Corrected June 26, 2003).

4) DOE/WIPP-02-3122, Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant, U.S. Department of Energy, Carlsbad Field Office, Carlsbad, New Mexico, Latest Revision.

5) Advanced Mixed Waste Treatment Project Hazardous Waste Management Act/Resource Conservation and Recovery Act Storage Permit, Issued by the Idaho Department of Environmental Quality, January 31, 2006.

6) AMWTP-RPT-TRUW-05, AMWTP Waste Matrix Code Reference Manual, Latest Revision.

7) AMWTP-RPT-TRUW-06, AMWTP TRU Waste Management Acceptable Knowledge Elements: AMWTP Baseline AK for Newly Generated Waste, Rev 7.

8) DOE/RL-2002-02, Application for a Risk-Based Disposal Approval for Polychlorinated Biphenyls, Hanford 200 Area Liquid Waste Processing Facilities, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

9) EPA Letter dated June 8 2004. From: L. John Iani, Regional Administrator, EPA; To: J. Hebdon, DOE-RL, and J. Ramessun, DOE-ORP, "Approval of the Toxic Substance Control Act (TSCA) Risk-Based Remediation Waste at the 200 Area Liquid Waste Processing Facilities," U.S. Environmental Protection Agency, Region 10, Seattle, WA.

10) DOE/RL Letter dated May 19, 2005. From: Keith A. Klein, Manager DOE-RL; To: Ron Kreizenbeck, U.S. EPA Region 10, "Toxic Substance Control Act. Application for a Risk-Based Disposal Approval for Treatment of polychlorinated biphenyls (PCBs) from the Hanford K-Basins North Loadout Pit in T-Plant", Richland, Washington

11) Final Environmental Impact Statement for the Waste Isolation Pilot Plant (DOE/EIS-0026, October 1980).

12) Final Supplemental Environmental Impact Statement for the Waste Isolation Pilot Plant (DOE/EIS-0026-FS, January 1990).

13) WIPP Revised Record of Decision, EPA Federal Register, 69 FR 125, June 30, 2004.

14) 10 CFR Part 835, "Occupational Radiation Protection".

15) DOE Order 5400.5, "Radiation Protection of the Public and the Environment.".

16) AMWTF Permit to Construct an Air Pollution Emitting Source at the Idaho National Engineering and Environmental Laboratory, permit number 023-00001, June 7, 2002, issued by the Idaho Department of Environmental Quality.

17) AMWTP –RPT-TRUW-56, AMWTP Acceptable Knowledge Document for INL Stored Transuranic Waste – Rocky Flats Plant, Rev. 0

18) AMWTP-RPT-TRUW-04, AMWTP Acceptable Knowledge Document for the Battelle Columbus Laboratories – Building JN-4 Plutonium Laboratory, Rev. 4

19) EPA letter, From: Michael Bussell Director, Office of Compliance and Enforcement, EPA Region X, "Approval of Toxic Substances and Control Act (TSCA) Application for Management of Transuranic Polychlorinated Biphenyl (PCB) Remediation Waste at the Advanced Mixed Waste Treatment Project (AMWTP) Facility," June 12, 2007.

20) Letter, "Request for Modification of the Toxic Substance Control Act (TSCA) Risk-Based Disposal Approval (RBDA) Application for Management of Transuranic Polychlorinated Biphenyl (PCB) Remediation Waste at the Advanced Mixed Waste Treatment Project (AMWTP) Facility (OS-ETSD-11-098)," Dated August 3, 2011.

21) Letter, "Notification About a Change in the Type of Absorbent Used Under the Advanced Mixed Waste Treatment Project Risk-Based Disposal Approval (OS-ETSD-IO-005)," David L. Wessman, TSCA Compliance Manager, DOE-ID, to Edward Kowalski, Director, Office of Compliance and Enforcement, EPA Region10, Dated January 7, 2010.

22) Position paper, "Risk Based Disposal Approval (RBDA) Position Paper "Incidental Waste Contact," undated.

Enclosure 2

Statement of Basis

Background

On March 1, 2007 the DOE-ID requested authorization for the processing of transuranic (TRU) polychlorinated biphenyl (PCB) remediation waste potentially containing incidental or free liquids via .absorption for purposes of meeting the waste acceptance criteria of the Waste Isolation Pilot Plant (WIPP). In some instances, the nature or quantity of liquids may result in the waste being classified under TSCA as a multi-phasic waste, with the result that the liquid phase could be subject to the high-temperature incineration requirement of 40 CFR 761.60(a). Absorption of free liquids, however, could be inconsistent with the prohibition in 40 CFR 761.50(a)(2) regarding processing of liquid PCBs into non-liquid forms to circumvent the high-temperature incineration requirement. As discussed in this Statement of Basis, this risk-based disposal approval (RBDA) provides authorization to process liquids in these transuranic wastes via absorption for purposes other than circumventing the high-temperature incineration requirement of 40 CFR 761.60(a), specifically as a legitimate means to meet the WIPP waste acceptance criteria in a manner that does not pose an unreasonable risk of injury to human health or the environment. This RBDA applies to approximately 16,139 containers of TRU PCB remediation waste currently in storage at the Advanced Mixed Waste Treatment Plant (AWMTP) and that have been designated by the Secretary of Energy for disposal at WIPP. This approval applies only to the processing of TRU PCB Remediation wastes at the INL, and is not an authorization for disposal at WIPP. Rather, it provides authorization to DOE-ID to conduct absorption of incidental liquids as necessary to meet WIPP requirements. As experience is `

In granting this approval, the EPA notes that high-temperature incineration of transuranic wastes poses particular risks to human health and the environment due to the potential of long-half-life alpha-emitting radionuclides being emitted via the air pathway from an incineration or thermal treatment unit. While the EPA has not established any requirement or policy prohibiting high-temperature incineration of TRU wastes, it does recognize that the risks from air emissions of TRU radionuclides should be balanced against the expected benefits of PCB destruction from high-temperature incineration of PCB liquids. Further, the EPA notes that WIPP has received a chemical waste landfill approval pursuant to 40 CFR 761.75 (See http://www.wipp.energy.gov/rcradox/final/EPA_PCB_Approval_Letter_11_15_06.pdf). Under this approval, WIPP is considered to not pose an unreasonable risk to human health or the environment from disposal of non-liquid PCB wastes. Therefore, the EPA defers to the Department of Energy decision to dispose of the AWMTP TRU PCB wastes in WIPP, to conduct processing as necessary to meet WIPP waste acceptance criteria, and to approve absorption of incidental liquids for reasons other than avoiding high-temperature incineration.

EPA's Evaluation of DOE-ID's Risk-Based Disposal Approval Application

Wastes Proposed for Treatment

The TRU PCB remediation wastes subject to this RBDA were generated and shipped to the Idaho National Engineering Laboratory from various U.S. DOE facilities beginning around 1970 through late 1980s. The wastes were placed in earthen-covered storage at the AWMTP where they currently reside. These wastes are currently being retrieved and scheduled for disposal at WIPP as the result of a 1995 Idaho Settlement Agreement. The Department of Energy has selected the WIPP for permanent disposal of TRU wastes from cleanup of the Department's weapons complex facility (Waste Management Programmatic Environmental Impact Statement, DOE/EIS–0200F), issued in May 1997, and the Record of Decision for the Department of Energy's Waste Isolation Pilot Plant Disposal Phase, 63 Federal Register 3624). However, the WIPP's waste acceptance criteria (WAC) prohibit the receipt of wastes containing greater than 1.0% by volume residual liquids, based on the shipping container and any of that container. Prior to off-site shipment to the WIPP, PCB-contaminated TRU waste containing residual liquids will require processing into a non-liquid form in order to meet the WIPP WAC. This WIPP WAC requirement applies to any liquids, regardless of whether they are considered liquid PCB remediation waste or not.

Once retrieved from the AMWTP earthen-covered retrievable storage area, the waste will be stored at the AMWTP's RCRA-permitted mixed waste storage unit(s) prior to processing and characterization for purposes of off-site disposal at the WIPP. Without approval to process the TRU PCB liquids, TRU PCB waste containing any amount of residual liquids will be designated as legacy waste (i.e., wastes with no identified disposal path). Wherever possible, the EPA supports the use of viable, safe, compliant disposal facilities in order to avoid waste being identified as legacy waste.

As discussed in the justification specific to Condition 1 below, the EPA is selecting a measure of ten (10) percent by volume liquids (based on the primary container volume) as an upper bound on the quantity of liquids (aqueous or organic) that may be in a waste drum to be considered "incidental" for purposes of this approval. While this upper bound is somewhat arbitrary, DOE-ID has indicated in informal discussions with the EPA that it expects all wastes proposed for management under this approval to have incidental liquids below this upper bound. The EPA believes that the 10% upper bound is not an excessive measure of incidental liquids, and that absorption of incidental liquids at or below this upper bound is not inconsistent with the EPA's finding that absorption of these liquids is not for purposes of avoiding the high-temperature incineration requirements of 40 CFR 761.60(a). Therefore, the EPA considers the 10% upper bound a reasonable balance between ensuring that no "orphan" wastes are created, and that processing of bulk liquids (which might be for purposes of avoiding high-temperature incineration requirements of 40 CFR 761.60(a)) does not occur. The EPA notes that DOE-ID's application occasionally uses the phrase "liquids processing." The EPA is NOT allowing processing of bulk liquids under this approval, only incidental liquids, language of the application notwithstanding.

Disposal Unit Waste Acceptance Criteria Compliance

In consultation with the Carlsbad field office, DOE-ID has concluded that it is likely that all wastes proposed for management under this RBDA will be acceptable for disposal at WIPP. While some "load averaging" may be necessary to meet the TRU content limits of the WIPP, it is

not expected that any of these wastes will fail to meet WIPP waste acceptance criteria and require disposal elsewhere.

Discussion of the EPA's approach to risk evaluation

Given the rather straight-forward nature of management activities under this approval the EPA finds that risks from the proposed treatment system can be addressed by considering the following aspects of the waste management system:

- Selection and use of the appropriate absorbents
- Spills or releases from the treatment system during operations;
- Emissions of PCBs via the air pathway;
- Treatment System Disposition and/or Decontamination

The processing proposed by DOE-ID is quite straightforward, involving opening of drums, addition of absorbents and ensuring effective contact between absorbents and incidental liquids. This work may involve mechanical mixing or agitation before, during or after addition of absorbents. DOE-ID has specified that absorbents to be used are Aquaset® and Petroset®, which are also authorized for use by the RCRA permit[2]. See the AMWTP HWMA/RCRA[3] Storage Permit Attachment 1.A. The following excerpt from this document summarizes results of testing and evaluation of these absorbents for various wastes, including those expected to be managed under this approval:

> "Initial testing of absorbents has been conducted to determine an appropriate absorbent material for the types of wastes present in AMWTP inventory. The criteria for evaluation included stability, pH, sorbent capacity, sorbency rate, curing time, composition of sorbent, sorbent dust production potential, and free liquid/sorbent combination response to temperature extremes (freezing and elevated) similar to those experienced during shipping. The results of this evaluation indicate that Aquaset®, a water activated, granular solidification agent composed of clays modified by a proprietary process from Fluid Tech Inc., meets the requirements for the treatment of liquids via absorption. Based upon the testing of the performance of absorbents, it has been determined that Aquaset® may be used for the absorption of liquids. Additional evaluation indicated that Petroset® IIG, also manufactured by Fluid Tech Inc., meets the requirements for the treatment of organic liquids via absorption. For additional information, see "Aqueous and Oil/Organic Liquid TRU Waste Solidification Method Test Plan and Report," Rocky Flats Environmental Technology Site, PRO 1582 PQP/PQR, Revision 0. "

[2] DOE-ID's application makes reference to both stabilization and absorption of incidental liquids, although all technology descriptions focus only on absorption. Stabilization is a very different technology than absorption, typically providing some sort of chemical immobilization of waste constituents via chemical reaction and/or change in solubility Since DOE-ID's application describes only the application of absorption technology and reagents, EPA is basing this approval only on use of absorption, not stabilization, as a means of managing free liquids.
[3] Technically, the permit is the "Hazardous Waste Management Act" permit, since the permit is issued under Idaho's authorized hazardous waste program, not the federal EPA program.

EPA accepts results of these evaluations as the basis for use of Aquaset® and Petroset® for absorption of incidental aqueous and organic liquids from TRU PCB remediation waste under this approval. According to References 17 and 18, existing acceptable knowledge of each waste stream, along with visual confirmation based on factors such as color and apparent viscosity of incidental liquids, will be used to select the appropriate and compatible absorbent. For all three waste streams identified for management under this approval (IDC RF003, IDC BC203 and IDC RF480), incidental liquids are expected to be principally organic in nature, so Petroset® will typically be selected.

DOE-ID's RBDA application does not specifically state the mixing technology that will be used to ensure mixing of absorbents and incidental liquids. The EPA expects DOE-ID to evaluate and select a specific mixing technology or technologies based largely on operational experience. Provided that whatever technology is used proves effective in adequately mixing incidental liquids and absorbent, the EPA does not believe that the specific mixing technology is a significant factor in determining whether or not the activities under this approval pose an unreasonable risk to human health or the environment, at least to the extent that mixing does not result on bulk or aerosol dispersal of wastes to the air. Therefore, the EPA is not establishing any mixing technology requirements other than bulk or aerosol dispersal of wastes does not occur outside the limits of air emission control device capabilities or requirements of the RCRA or air permits..

From an engineering perspective, the EPA expects that it will be relatively easy for DOE-ID to prevent air dispersal of wastes by limiting the total mixing energy (impeller speed or shaker table "intensity) and by selecting appropriate mixers or agitators. The EPA notes that from a radiological contamination and "as low as reasonably achievable (ALARA)" worker radiological exposure perspective, DOE-ID may be expected to establish stringent controls on any dispersal of wastes from containers under requirements of DOE Order 435.1 and 40 CFR Part 835. Although is not establishing either of these sets of requirements as enforceable requirements of this approval, the EPA does believe they will provide very effective controls that compliment the prohibition on air dispersal under this approval and prevention/mitigation of spills or releases during operations, as discussed in the following sections.

EPA notes that the RBDA application discusses the possibility of decanting liquids during or part of adding absorbents. Informal discussions with DOE-ID indicate that decanting will typically be limited to transferring excess waste to other containers (either new drums or partially full waste drums) when the quantity of absorbents that must be added to the waste in a particular waste container will result in a combined volume greater than the container capacity. In these instances, the excess waste can be transferred to another container as necessary. In some cases, decanting of waste and/or incidental liquids from multiple waste containers may result in a new waste container that holds more than 10 percent by volume liquids that were originally within the 10 percent limit on incidental liquids in the original container(s). This is acceptable under this approval, provided that the quantity of incidental liquids in all of the original containers was within the 10 percent limit on incidental liquids. The EPA expects that this situation is more an exception than standard practice, but does recognize that it may occasionally occur during processing. Given the release controls and spill cleanup requirements of this approval and the RCRA permit, the EPA does not believe that any particular limitations on decanting are necessary under this approval to ensure satisfaction of the no unreasonable risk standard.

Spills or Releases from the Treatment System during Operations

Spills or releases during operations are likely to be the most significant opportunity for human or environmental exposure to PCBs from work subject to this approval. The EPA expects that the preventative elements of the RCRA permit for the WMF-628 and WMF-635 container storage units will be effective in preventing spills or releases, and in responding to those spills that may never the less occur. Details of the RCRA permit requirements for these units can be found in ATTACHMENT 1.E and Attachment 1.C of the AMWTP HWMA/RCRA Storage Permit. Consistent with requirements of Idaho's authorized hazardous waste program, container storage technical requirements include, but are not limited to:

- Adequate secondary containment (impervious, structurally sound, sufficient capacity)
- Container management practices (aisle space, container types/integrity, waste compatibility, use of pallets/risers to ensure spill drainage away from containers, containers closed during storage)
- Secondary containment operation (drainage/run-on/run-off control, removal of liquids)
- Inspections (spill response, contingency plan)

These container management requirements ensure that spills or releases are prevented, spills that do occur are within secondary containment and are promptly cleaned up. These requirements are sufficient to demonstrate that management of PCB remediation waste under this approval does not pose an unreasonable risk of injury to human health and the environment with respect potential human or environmental exposures to PCBs from spills or releases.
EPA is not establishing particular requirements or authorization for management of secondary wastes from activities subject to this approval. The EPA expects that such wastes will be managed on a self-implementing basis according to applicable requirements of 40 CFR Part 761.

DOE-ID has not specified a particular location within the WMF-628 or WMF-635 buildings for the soft-sided tent(s) within which work under this approval will take place. However, there is no particular reason with respect to the TSCA no unreasonable risk standard to specify one area of these buildings over another. In particular, ventilation capacity and performance is the same regardless of soft tent location, as is secondary containment and other aspects of facility design and operation evaluated by the EPA with respect to spills or releases from the treatment system during operations. Although these tents are not frequently moved due to the effort needed to do so, they are mobile and may be moved if necessary for operational reasons. Therefore, the EPA is only requiring that work under this approval take place within these two buildings, but is not specifying a more specific location within them.

EPA notes that DOE-ID's application request approval to conduct absorption activities in soft-sided tent(s), or RCRA-permitted units that provide equivalent protection. DOE-ID's application did not give any examples of RCRA permitted units that provide equivalent protection, and DOE-ID has indicated informally to the EPA that it would be acceptable to limit work areas under this approval to within soft-sided tents.

Emissions of PCBs via the air pathway

As part of previous risk-based disposal approvals, in particular approvals for the 200-Area Liquids Processing Facility and the NLOP Sludge Treatment Unit at the Hanford facility, the EPA addressed air emissions through a release modeling and risk-evaluation process. These analyses clearly demonstrate that air emissions of PCBs through volatilization at ambient or near-ambient conditions are sufficiently small to not warrant further consideration. Further, the EPA believes that these analyses support a conclusion that case-specific modeling of air emissions at or near these conditions is not necessary, and that air emissions through volatilization is not a significant release mechanism.

Air emissions through particulate or aerosol dispersal mechanisms may, however, be significant factor for dispersal of PCBs from management activities under this approval. Therefore, the EPA is requiring that work under this approval be subject to air emissions controls and worker personal protection equipment (PPE). Exposure to particulate PCBs can be addressed for workers via appropriate respiratory protection, normally used for control of worker radiological exposure under 40 CFR Part 835, and for human and environmental receptors external to the AWMTP facility through ventilation system filtration. The EPA is requiring filtration of the WMF-628 and/or WMF-635 ventilation systems to ensure potential particulate emissions from the treatment system are appropriately controlled. This requirement is based on the existing "AMWTF Permit to Construct an Air Pollution Emitting Source at the Idaho National Engineering and Environmental Laboratory", permit number 023-00001, June 7, 2002, issued by the Idaho Department of Environmental Quality (Reference 16).

Via letter of January 7, 2010 (Reference 21), DOE-ID provided an update to the EPA concerning changes in the ventilation requirements for a SSC tent where absorption of PCB residual liquids is performed. These changes were found necessary due to the change in absorbents to Microcel E. The EPA acknowledges this change in absorbent and ventilation system configuration. No change to the RBDA conditions is necessary, however, as the use of Microcel E and the modified ventilation system configuration remain in compliance with Condition 3 and 5 of the RBDA approval, as documented in Reference 21.

Treatment System Disposition and/or Decontamination

Decontamination and/or disposal of equipment and structures associated with activities subject to this approval is a key aspect of ensuring that the approved work does not pose an unreasonable risk to human health or the environment. The EPA is establishing performance-based standards as well as an option to conditionally apply the closure process of the RCRA permit as a means of satisfying the no unreasonable risk standard with respect to final decontamination/disposal. These performance-based standards include:

- Decontaminated according to the requirements of 40 CFR 761.79;
- Decontamination to a clean debris surface according to the alternate treatment standards for hazardous debris in 40 CFR 268.45; or
- Disposed of according to applicable requirements of 40 CFR Part 761.

EPA is also allowing decontamination and/or disposal to take place according to the requirements of Attachment 8 of the RCRA permit, the RCRA closure plan. The closure plan is based in part on use of the clean debris surface standards as a closure performance standard, but

also allows decontamination based on sampling and analysis of wipe samples and comparison to a performance standard of 10 times the level of quantitation for a particular constituent. This approach is acceptable, provided that PCBs as measured by Aroclor mixtures are identified as constituents of concern in the RCRA/HWMA closure plan.

As noted elsewhere in this approval (See Condition 2), EPA expects that wastes other than the three waste streams enumerated in Condition 1 may be processed in the units identified in Condition 3. Therefore, EPA is not establishing a specific date or schedule for completion of final decontamination/decommissioning, but is requiring that such work be completed on a schedule consistent with closure activities under the RCRA permit. This approach ensures flexibility to balance operational needs, cross-program RCRA/TSCA integration, and certainty that decontamination/disposal necessary under this approval will occur timely with respect to the end of the operational life of the unit.

Work under this RBDA is intended solely to address incidental liquids as necessary to meet WIPP WAC requirements, not to change the nature or quantity of PCBs in the waste. In fact, as long as the WIPP WAC free liquids criterion is met, PCBs of any concentration may be disposed of in WIPP. Therefore, the EPA is not establishing any performance requirements for absorption under this approval with respect to PCBs. Further, absorption of incidental liquids need be carried out only as necessary to meet the WIPP WAC. In this sense, work under this approval is discretionary, as needed to meet WIPP WAC requirements and ensure that wastes managed under this approval can be shipped to WIPP for final disposal.

Expansion of the Treatment System to Include the WMF-628 North and South Box Lines

As documented in Reference 21, DOE-ID has requested a modification of the RBDA to include authorization to process for disposal TRU wastes in the WMF-676 North and South box lines. Historically, the AMWTP has used the SSC tents to process this waste stream. However, processing of this waste stream has proven time consuming, and personnel are physically unable to reach all liquids within the drums. For example, there may be pockets of liquids within the waste matrix or inner containers which require treatment. Therefore, the AMWTP is proposing to allow for treatment (solidification and/or absorption) of the waste stream within the Box Lines of WMF-676. DOE-ID intends to apply this additional treatment capacity to the same wastes as originally considered in the original RBDA application and EPA approval. In support of the requested modification, DOE-ID has provided a description of the WMF-676 Box Lines, the proposed treatment operations including management of parent drums and drum liner disposition, system disposition and decontamination requirements, and a qualitative risk evaluation.

Based on its review of the requested modification, the EPA has determined that the evaluation of DOE-ID's Risk-Based Disposal Approval Application prepared in support of the original RBDA and documented above is applicable to DOE-ID's request to expand treatment capacity to the WMF-676 Box Lines. The EPA therefore concludes the additional processing for disposal of wastes in the WMF-676 Box Lines, according to the conditions in this modified approval does not pose an unreasonable risk of injury to health or the environment.

DOE-ID has also provided the EPA with a position paper (Reference 22) intended to document the disposition and handling of drums and liners that contained Polychlorinated Biphenyl (PCB) sludge waste to be treated in the AMWTP Box lines. Specifically, this document addresses how the AMWTP will manage drums and/or liners that come into incidental contact with PCB wastes treated in the AMWTP Box lines. These drums and/or liners that are determined not to be contaminated with PCBs will be treated by volume reduction in the AMWTP Supercompactor and managed as mixed waste. All of the procedures and requirements in Reference 22 can be followed on a self-implementing basis according to the requirements of 40 C.F.R. 761, so the EPA is not providing formal approval of the position paper as part of this RBDA modification decision. However, the EPA concurs with the procedures and standards documented in the paper as an acceptable means of demonstrating compliance with the decontamination requirements of 40 C.F.R. 761.79.

Discussion of Conditions

The DOE must comply with all conditions outlined in this approved RBDA which includes:

1) This approval applies to TRU PCB remediation waste currently stored at the AWMTP facility identified as IDC RF003, IDC BC203 and IDC RF480 that has been designated by the Secretary of Energy to be disposed of at the WIPP facility located in Carlsbad, New Mexico, and which are potentially multi-phasic, with an upper bound of ten (10) percent by volume liquids (based on the primary container volume). Wastes that are not eligible for or have not been designated by the Secretary for disposal at the WIPP are not covered under this approval. This approval shall remain in effect as necessary to complete processing of wastes identified in this condition, any additional wastes approved pursuant to Condition 2, an up to two additional years as necessary to satisfy the requirements of Condition 8. The EPA may extend the duration of this approval based on a written request from DOE-ID

This condition bounds the applicability of this approval to those wastes identified in DOE-ID's application, and that are TRU wastes that warrant consideration according to the analysis supporting the EPA's decision to approve the RBDA. WIPP is the final disposal location selected by the Department of Energy for transuranic wastes resulting from cleanup of weapons complex sites. The WIPP has undergone extensive risk-analysis and is approved for the receipt of non-liquid PCBs. Wastes that are not eligible for disposal at WIPP are not covered under this approval.

As part of first modification of this approval, the EPA is modifying the time during which this approval is in effect to better reflect the scope of the overall project. In particular, the EPA is eliminating the previous RBDA time limit of five years, since the original language was not clear whether the 5-year limit was intended to be a more or less restrictive condition than completion of waste treatment, and the EPA fully expects that more than five years will be required to complete work under this approval.

2) PCB remediation wastes other than those currently in storage at the AWMTP facility that otherwise meet the requirements in Condition 1 may be managed under this approval if

DOE-ID provides a written request to the EPA to manage these wastes and the EPA provides written approval of the request. Any written request submitted by DOE-ID will document that the proposed additional wastes otherwise meet the requirements in Condition 1.

While no specific plans or schedules are currently in place for similar processing of additional wastes similar to those addressed in this approval, it may be the case that such additional wastes will need to be considered as part of INL cleanup work. To the extent that theses wastes pose similar technical, regulatory and policy issues, the EPA believes it appropriate to streamline the decision-making process for management of these possible additional waste streams. The EPA is including this condition to accomplish this end, yet retain a regulatory decision step that ensures the EPA's ability to verify the absence of significant issues that would preclude a streamlined decision and to ensure full compliance with the TSCA "no unreasonable risk standard". See 40 CFR 761.61(c).

3) DOE-ID is authorized to absorb incidental liquids in wastes identified in Condition 1 for purposes of meeting waste acceptance requirements of WIPP. DOE-ID may use absorbents, according to manufacturer's directions, identified in the RBDA Application, Section 4. Management of PCB remediation waste for this purpose may occur in soft-sided containment tents within WMF-628 and/or WMF-635 in accordance with the requirements of Condition 5, the bulleted items in Section 4 of the RBDA application (Reference 1, incorporated by reference into this condition) and according to the requirements of Attachments 1.C and 1.E of the RCRA permit. Management of PCB remediation waste for this purpose may also occur in the WMF-676 North and South Box Lines, in accordance with the requirements of Condition 5, Sections 5.2, 6.1, and 7 of Reference 20, incorporated by reference into this condition, and according to the requirements of Attachments 1.C and 1.E of the RCRA permit. Equipment and types of manual/mechanical means used to separate the liquid or mix liquids with absorbent for purposes of absorption of liquid shall not result in uncontrolled or un-permitted bulk or aerosol emissions.

This condition establishes the specific activities and methods that may be carried out under this approval, and the specific locations at which these activities may occur. The majority of AMWTP's inventory is comprised of PCB remediation waste that has undergone solidification/absorption prior to receipt at the AMWTP. As such, only liquids that resulted from load separation, condensation etc. are expected to be encountered. Equipment found to contain PCB liquids are not viewed as incidental liquids for purposes of this approval, and will be managed separately as special case wastes under the Department of Energy's WIPP certification program. If special case wastes require specific consideration under TSCA, it will occur outside the scope of this approval. DOE-ID's RBDA application cites use of two absorbents - This condition also establishes the technical standards based on the RCRA permit issued by IDEQ that will be applicable to work conducted under this approval.

On the basis of DOE-ID's request for a modification of the original RBDA (Reference 20), the EPA has modified this condition to include authorization to treat PCB remediation waste in the WMF-676 North and South Box lines.

EPA is adding the prohibition on bulk and aerosol emissions to ensure that possible air emissions are eliminated, or at least within the control capability of air emissions control devices (HEPA filters) and permits applicable to these emissions, specifically the RCRA and air permits.

4) Management of PCB remediation waste under this approval shall follow requirements of real-time radiography/visual examination to meet WIPP certification requirements according to the EPA-approved waste characterization program for WIPP shipment and disposal for purposes of ensuring that liquids (including but not limited to liquids in oil-filled equipment) other than incidental liquids are not managed under this approval.

This condition establishes the requirements that will be used to ensure that only incidental liquids are managed under Condition 3 of this approval. In particular, this will ensure that equipment containing liquids (e.g., metalworking equipment such as lathes, oil-filled electrical equipment such as capacitors) are not included in the waste streams that are subject to this approval. Under the WIPP waste characterization program, bulk or containerized liquids greater than 1 percent by volume, including equipment containing liquids, are considered prohibited items with respect to WIPP waste acceptance criteria, and must be removed from the waste stream and managed separately. Since WIPP certification will take place following completion of any activities under this approval, only incidental, not bulk or containerized liquids which might be PCB liquids, can be managed under this approval.

5) Management of PCB remediation wastes under this approval shall be in compliance with and conducted only in units subject to permits issued by the State of Idaho pursuant to IDAPA 58.01.05.008 (the RCRA permit) and IDAPA 58.01.01.200 – 223 (the Air Permit), 10 CFR Part 835 and DOE Order 5400.5.

This condition establishes the technical standards that will apply to work under this approval, based on the RCRA permit issued by IDEQ and radiological controls for occupational radiation protection. The EPA is not establishing requirements of the RCRA or Air Permits as enforceable requirements of this approval, but is requiring that DOE-ID be in compliance with their respective conditions. Work not in compliance with the RCRA or Air permit is not permitted under this approval. As noted in the statement of basis, the EPA is citing certain requirements of

the RCRA and Air permits as the basis in part for this RBDA approval, specifically the HEPA filtering requirements of the Air Permit, Appendix B

6) DOE-ID shall ensure that personnel involved in work subject to this approval are adequately trained and provided appropriate personnel protection equipment (PPE) according to requirements of DOE Order 5400.5 applicable to such work.

This condition ensures training and personal protective equipment are suitable not only for the chemical hazards of wastes managed under this approval (addressed through requirements of the RCRA permit under Condition 5), but the radiological hazards as required by DOE 5400.5.

7) Secondary waste generated as a result of activities subject to this approval shall be managed according to the applicable requirements of 40 CFR Part 761.

This condition provides clarity that wastes that may be generated as part of work conducted under this approval are not subject to requirements of the approval. While DOE-ID has not provided information concerning any specific wastes that might be expected to be generated, none of them would be expected to pose the regulatory issue of multi-phasic transuranic wastes that give rise to this approval in the first place. This condition is not intended to limit any of the options DOE-ID might have available for management of secondary wastes.

8) All equipment and structures which are or may be contaminated by PCB remediation waste as a result of work subject to this approval shall be decontaminated following completion of work under this approval according to the requirements of 40 CFR 761.79, a clean debris surface according to the alternate treatment standards for hazardous debris in 40 CFR 268.45 (including the performance and/or design and operating standard identified for various debris materials), or disposed of according to applicable requirements of 40 CFR Part 761. Work may also be accomplished according to the requirements of Attachment 8 of the RCRA permit provided that PCBs, as measured by Aroclor mixtures, are included as a contaminant of concern. This work shall be conducted on a schedule consistent with closure requirements of the RCRA permit. DOE-ID shall provide written notice to the EPA at least 30 days prior to the start of this work. Any equipment, structures, and PPE contaminated with or reasonably expected to be contaminated with PCBs and destined for reuse outside of the proposed processing areas will be decontaminated in accordance with the self implementing decontamination standards and protocols outlined within 40 CFR 761.79 requirements, or unless tested, will be disposed of as greater than 500 ppm PCBs.[4]

This condition establishes requirements for final decontamination and/or disposal of equipment and structures used as part of work conducted under this approval. In order to meet the TSCA no unreasonable risk standard, the EPA does not believe it necessary to require equipment or structure decontamination or disposal to occur immediately after completion of work under this approval, but may take place on a schedule consistent with closure to be conducted pursuant to the RCRA permit at some later date. Work under this approval must be in compliance with the RCRA permit, the Air Permit and work requirements under DOE Orders, so any spills or releases of PCB remediation waste from work conducted under this approval must be promptly

[4] Some materials within process areas may not have reasonably contacted PCBs (e.g., PPE used outside of glove box areas) and therefore are not subject to TSCA decontamination or disposal requirements.

cleaned up, especially in a radiological environment where "as low as reasonably possible" (ALARA) principles and minimizing the spread of contamination are significant issues. Therefore, requiring final decontamination/disposal prior to final closure under the RCRA permit would serve little purpose with respect to the TSCA "no unreasonable risk standard."

9) Any spills or releases of PCB remediation waste associated with work subject to this approval shall be addressed according to the requirements of the RCRA permit, 10 CFR Part 835 and DOE Order 5400.5.

This condition ensures that there are no unexpected or unintended exposures of workers, the public or the environment to PCBs as a result of spills or releases associated with work under this approval. The cited requirements cover both the chemical and the radiological aspects of wastes in question. As noted in Section 5 of the RBDA application, emergency procedures associated with WMF-628, 635 and WMF-676 are addressed within the contingency plan of the AMWTP RCRA storage permit.

EPA is not imposing any recordkeeping or reporting requirements in this approval under TSCA. Normally, such requirements would be advisable to ensure that any sorts of systematic issues that might results in spills or releases could be addressed, and that records of spills/releases would be available at the time of final disposition of equipment. In this instance, however, the EPA believes that there is little need for such a requirement, since the radiological nature of the wastes being managed means that ALARA principles will ensure that spills/releases are quickly and effectively cleaned up. While not enforceable under TSCA, such records are required under the RCRA permit. Information in the RCRA permit facility operating record could constitute information reportable to the EPA under Condition 15.

10) Nothing in this approval relieves DOE-ID of any obligations to comply with all other rules and regulations applicable to the activities subject to this approval.

As noted in the Statement of Basis, the proposed activities are subject to numerous considerations, not all of which are subject to EPA control under the authority of 40 Code of Federal Regulations (CFR) 761.61(c). This condition reflects the EPA's acknowledgement that success and environmental performance must reflect compliance with all applicable requirements.

11) If any time before during or after management of PCB remediation waste under this approval, DOE-ID possesses or is otherwise made aware of any data or information (including but not limited to site conditions that differ from those presented in this RBDA application) indicating that activities approved herein may pose an unreasonable risk of injury to health or the environment, DOE-ID must report such data, via facsimile or e-mail to the EPA within five working days, and in writing to the Regional Administrator within 30 calendar days, of first being made aware of that data. DOE-ID shall also report new or different information related to a condition at any element of the AMWTP treatment activities if the information is relevant to this approval. DOE-ID shall immediately cease all activities approved herein that may pose an unreasonable risk of injury to health or the environment. Such activities shall not resume until the EPA provides written notification that the activities in question no longer pose an unreasonable risk of injury to health or the environment.

The purpose of this condition is to ensure that information relevant to the EPA's finding of no unreasonable risk of injury to health and the environment remains up-to-date throughout the duration of this approval, and that activities conducted pursuant to the approval demonstrate compliance with this standard. the EPA notes that information that might be reportable under this RBDA approval condition might originate from inspections carried out pursuant to the RCRA permit.

12) EPA reserves the right to modify or revoke this approval based on information provided pursuant to Condition 15, or any other information available to EPA that provides a basis to conclude that activities covered by this approval pose an unreasonable risk of injury to health or the environment. DOE-ID may request modification of this approval by providing written notice according to Condition 17. If EPA accepts a request for modification, EPA will provide written approval to DOE-ID. Prior to obtaining written approval of a modification request, DOE-ID shall comply with the existing approval conditions.

The purpose of these conditions is to ensure that all activities for the duration of retrieval activities (including any post-retrieval management of PCB remediation waste residuals) continue to pose no unreasonable risk of injury to health or the environment, and that EPA is assured of receiving the necessary supporting information. While this approval reflects EPA's findings that the proposed activities satisfy the requirements of 40 CFR 761.61(c) based on the information cited in the Statement of Basis, EPA also recognizes that the unique nature of activities covered by this authorization make it very possible that new information will be available that warrant explicit EPA evaluation and/or response. This condition ensures EPA's ability to respond appropriately.

13) Submissions required by this approval shall be provided to EPA as follows:

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